GARDEN AND FOREST.

PUBLISHED WEEKLY BY

THE GARDEN AND FOREST PUBLISHING CO.

OFFICE: TRIBUNE BUILDING, NEW YORK.

Conducted by . . . . . Professor C. S. SARGENT.

ENTERED AS SECOND-CLASS MATTER AT THE POST-OFFICE AT NEW YORK, N. Y.

NEW YORK, WEDNESDAY, SEPTEMBER 15, 1897.

TABLE OF CONTENTS.

PAGE.

EDITORIAL ARTICLES:—The Improving of Native Plants ..... *Thomas Meehan.* 359
Wild Flowers of Early September ..... *Mrs. Schuyler Van Rensselaer.* 359
Some Facts about Frost Prevention ..... *M. G. Kains.* 361
FOREIGN CORRESPONDENCE:—Grammatophyllum speciosum ..... *W. Watson.* 362
NEW OR LITTLE-KNOWN PLANTS:—Hydrangea paniculata. (With figure.) 362
CULTURAL DEPARTMENT:—Colchicums ..... *J. N. Gerard.* 364
Notes on Gladioli ..... *W. E. Endicott.* 364
A New Double Hollyhock ..... *V. A. Clark.* 364
Notes from Wellesley ..... *T. D. Hatfield.* 365
Rudbeckia Golden Glow ..... *E. O. Orpet.* 365
Lilium Henryi ..... *Professor F. A. Waugh.* 365
CORRESPONDENCE:—The Botanic Garden of the Michigan Agricultural College, *Professor W. J. Beal.* 365
Notes from Rochester, New York ..... *E. O. Orpet.* 366
Peaches in the Ozark Mountains ..... *Fanny Copley Seavey.* 366
The Dikeman Cherry ..... *J. S. Woodward.* 367
Crested Begonias ..... *J. N. Gerard.* 367
The Cheney Plum ..... *Professor F. A. Waugh.* 367
RECENT PUBLICATIONS 367
NOTES 368
ILLUSTRATION:—Hydrangea paniculata, Fig. 47 363

The Improving of Native Plants.

HISTORIES are mostly unreliable, and the histories of our fruits and vegetables are no exception. Few can see the value of any occurrence at the time when it takes place, and it is only in after years, when the results are apparent, that we begin to look about for the attending circumstances. This truth is evident when reading the histories of our fruits and garden vegetables. We know that they were derived from wild forms still in existence, and that they reached their present conditions only after long and patient experiment and display of skill. The monks of old especially are credited with the expenditure of much study in bringing our garden vegetables to their present state of comparative perfection, and possibly to them we are indebted for much that is good in them. The fact is that there is no great amount of knowledge or skill required to produce these improvements from the wild stock. Perseverance in selecting individuals which vary somewhat from the usual forms, sowing seeds of these, and choosing plants which are nearest to our ideal, and following up this for a few generations, represent the knowledge and skill necessary. A few years of perseverance are required, and this the monasteries were in excellent condition to give. It is no wonder, however, that the uninitiated look on with awe at the change, and that polite history credits it to the great skill and knowledge of the improver. The Beet-plant may now be drawn from its native soil with its long thready root no thicker than a goose quill, and it seems incredible that this should be the parent of the Sugar Beet. So also the parent of the Cabbage may be gathered with a couple of leaves not as large as one's hand and a six-inch spike of yellow flowers, and yet from this unpromising origin came Cabbage, Kale and Cauliflower. And these improvements have been brought about by simple selection and resowings from some one aberrant plant.

It is somewhat surprising that no one has taken in hand the improvement of our native vegetables to any great extent. Certainly we have Corn, Beans, Tomatoes and a few other plants that are natives of our continent, but these we received from the natives before us. We, from the old world, have done nothing for the vegetables of the new world. We go to China for Chingi when our own species of Stachys and its near neighbor, Lycopus, have tubers nearly as good. Our native Indians could tell of scores of roots that would be as good as many of our popular vegetables if taken in hand and selected for improvement as others have been.

In 1804–5–6 a wonderful event occurred in the successful crossing of this great continent for the first time, and the return to the "village" of St. Louis by Captains Lewis and Clark and forty-three companions. Among the instructions given them by President Jefferson was one to take notes of plants that might be serviceable to man. A collection of plants was made by them which has not been seen since the botanist Pursh's time until this summer, when it became my good fortune to find it in the vault of the American Philosophical Society in Philadelphia, Pennsylvania, where these specimens, with others, were deposited after Dr. Barton's death. Under the specimens are full notes of their uses by the Indians. These great explorers were not botanists except in the general way that intelligent persons of a few generations back were expected to have an outline knowledge of every school study. They knew, for instance, that certain plants belonged to the umbelliferous family, and others to the Lily family, and they went this far in their written descriptions. It is especially surprising to note the number of members of the Umbelliferæ in use as food, and we still have in our gardens Celery, Carrot, Parsnip, Parsley and others; but because there happens to be one fatal Hemlock among them, the whole family is under suspicion. On one of the labels is written, "This umbelliferous plant is the only one whose root is not eaten by the Indians." Unfortunately, during the three-quarters of a century that the specimens have been bundled up, the museum beetle has done effectual work, and not a scrap of the plant is left to which this label was attached. Another label tells us "The Indians use this root, boiled or raw. It has a fusiform root, not unlike our common carrot, and, indeed, the leaves are somewhat of the same character. They taste like sugar." Surely such good material is worth investigation and study. These labels suggest that there is scarcely a starchy or succulent root but is good for food. Even our common Silver-weed or Goose Grass, Potentilla anserina, has a place in this useful list, and a label tells us that "we found them very pleasant when roasted, resembling in flavor somewhat a sweet potato."

In the busy days of the modern American the few years of trial required to bring up American weeds to the rank of useful vegetables cannot be spared. But our agricultural colleges more than supply the place of ancient cloisters. With a wide knowledge of science, with skill in experimentation, the officers of our colleges and stations are much more completely equipped for this work than were the monks or any one else of their generation. At least, here are two fields in which they would have practically no rivals. In the first place there is a mass of bibliographical work of the past century which can be arranged for useful reference, so that we can preserve the gains our predecessors have already made. And again there are wild plants everywhere which by careful selection might be transformed into edible foods of the highest value. We do not refer, of course, by this to the nuts and berries exclusively, but to salad plants and garden plants for preparation in other ways that will add variety and value to our foods.

Germantown, Pa. *Thomas Meehan.*

Wild Flowers of Early September.

WITH September the reign of the Golden-rod and the Aster is established, though it is not at once supreme. Some of the August flowers, and especially the tall late-summer "weeds," are still prolific and lusty; and certain later comers help them to dispute the conquest of field and roadside with the two great autumnal genera.

The showiest of the Eupatoriums, the showiest of all August flowers—the Joe-Pye Weed—is past its best. Many

of its great pinkish-purple bouquets still sway in the wind, sometimes at twice the height of a man, but for the most part they are now faded and dry. The white Boneset, however, still flourishes; and the most beautiful member of this genus has just reached its best. August does not show the White Snakeroot, Eupatorium ageratoides, as early September shows it. And it is not merely a chief ornament of these particular days. It is one of the most beautiful of the Compositæ, and no more charming flowering plant of an analogous kind grows in any garden. Through the fence, from the woodland border, in the meadow thickets, it spreads its polished dark red branching stems, bearing their numerous corymbs of blossom. Its flowers are larger, more brightly white, and less hairy-looking than those of the other Eupatoriums, and Nature has done so well with this plant that the gardener would not need to "improve" it to fit it for frequent use in the pleasure-ground. Indoors it looks best when arranged by itself, for its own stems and leaves and flowers furnish contrast enough, and none of their charm ought to be hidden. It is appropriate for small bouquets for mantel or table decoration, as well as for large arrangements, simulating its effect as it grows. But in neither case should it be too closely massed. Its graceful habit and the color of its branches should always be revealed.

The most conspicuous plant which is now in its prime is the many-branched form of the Button Snakeroot, also called the Blazing Star, although it is hard to see why, for its heads are not star-shaped and their color is a deep red-purple. When it grows under favorable conditions where it has plenty of moisture, the rich-hued "buttons" of Liatris scariosa are remarkably numerous, and are well set off by the very dark green of its abundant foliage. It is not one of the more graceful Compositæ, but it is stately and handsome. It may be massed in house decoration because Nature grows it in masses. And its dark tones may well be relieved, as Nature often relieves them, by the admixture of a few sprays of Golden-rod. But it should never be combined with Asters. Their more delicate habit unfits them for its companionship, while when their blossoms are blue or lilac they do not harmonize with its redder purple.

The most popular flower of this season is undoubtedly the red Lobelia. The most careless eye cannot ignore the Cardinal-flower as its graceful spike flames against the dark hollow above a shadowed pool or springs from a brookside tangle. The village child delights to discover it, and the most captious taste need ask nothing more beautiful than its distinctive form and dark velvety red color—the most beautiful red, in tone and in texture, which any of our wild flowers can show. Nevertheless, when the Cardinal-flower is brought home and put in water its effect is usually a disappointment. This is because it is most often arranged in bunches with only a slight admixture of green. Its color then survives; but the effect, as of a lance-like flame, which was so enchanting in Nature, has disappeared. If a bowl is filled with foliage and then a few tall spikes of the Cardinal-flower are set in it one by one so that the individuality of each is preserved, a much better result will be attained. And the foliage ought to be of the darker greens, like the leaves of the plant itself. So deep a red as that of this Lobelia does not contrast well with yellowish greens.

Admirable, too, is the Great Lobelia, L. syphilitica, with its flowers of an intense blue, rivaled only by the blue of the Gentians. It has not the grace of L. cardinalis, nor its vivid effectiveness, but is a desirable addition to the resources of the decorator of the house at this particular season. It will be forgotten when the Gentians come, but as yet only one of these is available. This is the Closed Gentian, G. Andrewsii. Delightful in color, it is stately and decorative in habit, and is well worth seeking, for it lasts longer after cutting than almost any other flower of the season. Nothing else should be combined with it. Its strong stems should lift their fine whorls of dark green leaves and their clusters of oval blossoms, deep blue streaked with white, from the glass or vase undisturbed by contrast with any plant of another habit and color.

The various Compositæ of the genus Prenanthes (the Rattlesnake-roots) now add variety to the roadside and forest border. The tall, slender stems and slim panicles of nodding heads which some species produce have an attraction peculiar to themselves, and much of it may be preserved when they are brought indoors if Nature's methods of arrangement are again observed. The flower-stalks should be kept of their full length, or nearly so, only two or three of them should be used, and they should be allowed to rise well above the general level of the contents of the vessel in which they are placed.

The Swamp Loosestrife, Decodon verticillatus, is not yet out of bloom, and the light pink of its delicate blossoms makes it peculiarly attractive at a season when purples and yellows so largely carpet the earth. This plant, sending out near the ground long recurved stems covered with whorled leaves and axillary clusters of flowers, should not be arranged in the house to simulate the aspect of erect-growing plants. A number of its stems should be placed in a low flat vessel, curving outward from it in all directions, and this vessel should be set on the floor so that the eye may look down upon it as it does upon the plant itself when it grows in the wet ground by the pondside.

Every one who loves plants must long ago have discovered for herself the best ways in which to make use of the Golden-rods and Asters. And the many berries which are available at this season are not difficult to manage. Common sense decrees that they should be shown with their accompanying leaves as they grow on the branches. But there is one plant, the White Baneberry, the fruit of which is conspicuous just now, which teaches an interesting lesson in regard to natural beauty. This is the lesson that if any of Nature's products seems ugly, it is because it is taken out of its right environment. Even a snake is beautiful as we catch a glimpse of it gracefully gliding among thick foliage. Even a bullfrog is very handsome as he sits on a half-submerged log, half-submerged himself. And even the flower which is least attractive when put in a vase or held in the hand and examined, has its own peculiar charm when seen, or half-seen, amid its natural surroundings. This lesson is strikingly enforced by the fruit of the White Baneberry. When examined it is distinctly ugly. The white berries, each perched on the end of a thick stiff red stalk, and these stalks set stiffly at wide intervals around the stem, look as though, not the skillful hand of Nature, but the 'prentice hand of some human workman had both shaped and colored them. The spike looks as though it had been manufactured, not grown, and manufactured with dead wood and paint, not with vital vegetable tissues. Yet a spike of White Baneberry as it grows in the roadside tangle, revealing itself as shining sparks of white and lines of crimson, is a very delightful object. It is wisest to admire it and pass it by. No good effect can be produced with it if it is picked and brought home. And much the same may be said of the thick scarlet spadix of the Jack-in-the-pulpit.

By the seashore many delightful plants which are not named here may be found in early September. But even amid the less varied flora of the hills there is one which must not be forgotten. It is very lovely in itself, and it is all the more attractive because strength and showiness, not extreme delicacy and fragility, are the qualities we look for in the plants which blossom at this season. No vernal plant exceeds the Slender Gerardia, G. tenuifolia, in the qualities which its names denote. Some of its larger yellow-flowered brethren still show their blossoms, although their real season is August. But only an examination of the fashion of their flowers could suggest that they are indeed its brethren. It is impossible to describe the delicacy, the fragile, airy grace, of this little species with its tiny almost thread-like leaves, its rosy purple flowers, and its paler, almost white, globular flower-buds. The red and

yellow Columbine of spring seems almost sturdy if we think of it in comparison, and even the Harebell is not so frail. On woodland banks or open meadows it is exquisite indeed, and if rightly treated indoors it preserves its charm. Nothing else should be mixed with it, but if a loose bouquet of it is put in a thin white glass vase, the beauty of the open flowers and the spark-like effect of the unopened ones will delight the eye for a few brief hours. On the morrow it will have withered. But who would expect a flower like this to "last" as does a Golden-rod or a Closed Gentian? The only marvel is how its fairy-like frame can furnish sap enough for the elaboration of its lovely flowers.

Tuxedo Park, N. Y. *M. G. Van Rensselaer.*

Some Facts about Frost Prevention.

IN few countries have methods for the prevention of injury by frost been so systematized as in France. The nature of many of the crops and the peculiar situations they often occupy have demanded extreme vigilance at critical periods or total loss has followed. Prior to the comprehension of the principles involved in these methods, and even at the present day in less enlightened communities, the disturbing cause of frosts has been that arch-enemy of agricultural practice, the moon. This innocent luminary has, in the past, exercised as baneful an influence over the fruit crops of France as it does in certain benighted Potato-fields in America at the present day. It was not until long after the physicist Arago had explained the cause of these late spring and early autumn frosts that the superstitious peasantry gradually lost faith in the blighting efficacy of moonbeams. These frosts, Arago demonstrated, are due to the rapid radiation of heat from the earth, always augmented by still air and a clear sky, but retarded by clouds and wind, the former acting as a blanket to check the escaping heat, the latter preventing the air from settling in pocket-like formations in the general contour of the land.

Coverings of paper and other materials commonly used to protect flower-beds would in themselves be too slight a protection but for the check they give to the heat and moisture escaping from the ground. The relatively high temperature maintained under these coverings is due to the continual evolution of heat which accompanies the condensation of moisture. To protect small areas or a limited number of specimens, French gardeners use straw mattings, bell-jars, various kinds of frames and screens, which latter are, as at Montreuil (in the vicinity of Paris), hooked to permanent or temporary supports. This last method was brought to France, by way of England, from Scandinavia, where it has been used time out of mind for the protection of wall fruits.

A unique method for tree protection is the hanging of a thick rope from a high branch of the tree, the lower end being in a pail of water. *The Farmers' and Planters' Encyclopædia* remarks that "should a slight frost take place at night it will not in the smallest degree affect the tree, while the surface of the pail, which receives the rope, will be covered with ice; the water placed in another pail by the side of it, by way of experiment, may not from the slightness of the frost, have any ice on it at all." In this case the rope, by exposing a large surface to the air, aids the evaporation of the water carried up by capillarity, and the heat evolved by the condensation of this water among the foliage raises the temperature above the line of danger.

When plants are covered by hoar frost they may yet be saved, say Decaisne and Naudin (*Manual de l'Amateur des Jardins*, vol. i., page 624), by sprinkling them freely with water, which loosens and removes the ice and gradually raises the temperature of the plant to its normal degree of heat. Doubtless this is a somewhat sweeping assertion, since the damage may have occurred at the time of freezing. And damage at the time of freezing seems all the more probable from the following experiment recorded by Stewart. Two sets of smudges were placed in different vineyards equally exposed. In the first, they were lighted one hour before sunrise; in the second, when the temperature reached the freezing-point. In the former the buds were frost-bitten; in the latter, unhurt. Some plants can stand a good deal of frost without being injured, while others are permanently disabled by temperatures not below the freezing-point.

The practice of smudging is more ancient than is usually supposed. De Serre, a prominent agriculturist of the sixteenth century, recommended it, and it is even said to have been favorably spoken of by Pliny. In Wurtemberg, in 1796, the men were divided into companies of about twenty, under a captain, to protect certain assigned districts, and were called out by an alarm given by a regular watchman. This service was compulsory, since article seven of the rules reads that whoever "shall refuse to obey, shall be prosecuted before the bailewick, and receive exemplary punishment."

Even long after the practicability of frost prevention had been demonstrated, fruit-growers, instead of testing the methods, as a rule continued to accept its ravages as a thing to be expected, but not avoided. But of late years they have commenced to see the benefits derived, and the use of smudges has been growing in popularity. These are made of almost any substance, such as dampened straw, manure, tar, sawdust, crude kerosene; in fact, anything which will produce a smouldering fire with much smoke and little blaze. Besides these substances, various compositions have been put upon the French and other markets. One of these, Lestout's (considered the best), is sold in the form of bricks, which weigh sixteen pounds, and cost about fifteen cents each. They are placed about thirty feet apart, and lighted at the approach of danger. A tract of about 2,200 acres may be protected by 300 of these bricks at a cost of about one cent per acre per hour for the material. The smudge formed will, in still weather, be effective for about two hours, when it may be renewed if necessary. In many orchards and vineyards these smudges are fired automatically by various devices. These are not often satisfactory, since the machine lights all fires at once, in which case, if there be but a slight breeze, the smoke from the leeward smudges is lost, while that from the windward fires is liable to be too much diluted with air to be effective.

A district rather than an isolated plantation should be protected. This is best accomplished by organized effort on the part of all proprietors owning crops liable to injury. One such company of 115 growers was formed at Moulis, in Medoc. Their operations were very successful. The cost of protection was only twenty-five cents a thousand vines for the season, a figure which could not be reached by individual protection.

The success attending the application of protective methods may be still further seen in the following cases: At Lussac, in Medoc, on April 21st, 1887, the trellis wires were covered with ice. Smudges were lighted at two A. M., and not only were the crop and the vines saved, but even the tenderest foliage covered by the cloud was uninjured. At Cornell University, in the autumn of 1896, the whole of the Dahlia and Canna plantations, which were in a hollow from which the cold air could not escape, were successfully protected by the smudge and water methods. At the Michigan Agricultural College, a few years ago, beds of Geranium and Coleus were saved by the water method, and were in fine condition some weeks after even less exposed beds had succumbed.

This water method consists simply in a liberal drenching of the plants and the ground on the evening when frost is expected. If there be a rise of ground in the immediate vicinity of the plants to be protected, it should also be wetted down so that the air which flows over it toward the plants will be saturated with moisture. When the temperature falls, water vapor is condensed, a large amount of latent heat is evolved and the temperature of the air is raised. Of course, when general freezes overspread a wide

area of country, nothing can be done to prevent injury, but when the fall of temperature is slight, either the smudge or the water method, or both together, will prevent injury, which would almost certainly occur if nothing were done.

Department of Agriculture, Washington, D. C. *M. G. Kains.*

Foreign Correspondence.

Grammatophyllum speciosum.

SIR TREVOR LAWRENCE exhibited a full-sized spike of flowers of this, the largest of all known Orchids, at the last meeting of the Royal Horticultural Society. It was, of course, awarded a first-class certificate, and to this was added a gold medal for the cultivator, Mr. White, under whose skillful management the rich collection of Orchids at Burford Lodge has been for the last ten years. From time to time attention has been called to this giant among Orchids either by travelers who have seen it in all its glory in Malasia, where it is a native, or by collectors who have sent home big specimens of it in the hope that its magnificence might be seen here. But, although it has, as a rule, grown freely, it has failed to flower, except in rare instances. The Burford Lodge plant has been in the collection at least ten years, and has only flowered now, and that, too, after a course of treatment which, from its effects on the stems and leaves, might be termed drastic, but in that it has brought about the desired result it has proved to be so far correct. The Kew specimen of this Grammatophyllum is about four times as large as that at Burford Lodge, and it is in the best of health, some of the pseudo-bulbs being ten feet long, as thick as a man's wrist and clothed with leaves from base to tip, but it has not yet flowered. The spike produced by Sir Trevor Lawrence's plant was seven feet high, as thick as a man's thumb, and it bore thirty expanded flowers of a yellow and purple-brown color, each five inches across; the pedicels were four inches long, rigid and of a whitish green color. There were about thirty unexpanded buds at the apex of the spike. A peculiar character in this and several other genera is the production of two or three abnormal (male) flowers at the base of the scape, in which the segments are reduced to four and the lip is suppressed.

Large, however, as is the specimen of this Orchid to be seen at Kew, it is a mere pigmy when compared with the dimensions given of examples seen wild and in gardens in the tropics. For instance, in 1892 Mr. James Veitch saw in the Botanic Gardens at Penang a single specimen which measured forty-two feet in circumference and bore thirty spikes of flowers. In the following year, according to Mr. Curtis, the Superintendent of the Penang gardens, the same plant produced twenty-four spikes, each seven feet or more long, and bearing fully one thousand expanded flowers. It was, he says, growing on a mound three to four feet high, where it got the full sun all day after about nine in the morning. Once or twice a year half a cart-load of leaf-mold was scattered among the roots, and this was the only attention it received. The finest plants found growing wild in Penang are usually high up in the forks of large trees, where they get abundance of sunlight. The Kew plant was imported from Penang in 1893 by Messrs. F. Sander & Co., who intended it for the Chicago Exhibition, but it got too much damaged in transit to be worth sending.

The history of this Orchid is given as follows in Veitch's *Manual of Orchidaceous Plants*: "This gigantic Orchid excited the wonder of travelers in Malasia long before it found its way into British gardens. The physician Rumphius was probably the first European scientist who became acquainted with it, and through him, or through Osbeck, who visited the Malay Archipelago about the middle of the last century, it became known to Linnæus and to his successor, Oloff Swartz. Many years afterward it was detected by Finlayson in Cochin-China, and by the French botanist Gaudichaud in the Moluccas. . . . But it was not till Blume published a colored plate of it in *Rumphia*, nearly a quarter of a century later, that the true character of the plant became known, and the surprise of botanists and the longing of horticulturists were awakened. It was first flowered imperfectly by Loddiges in the Hackney nursery in 1852; again in 1859 in a private collection in Surrey, and from this the fine picture published in *The Botanical Magazine*, t. 5157, was made. This plant had stems from nine to ten feet long and a scape six feet high with flowers nearly six inches across and of a rich yellow color, heavily blotched and spotted with red-purple. A plant flowered some years later in the collection of Sir G. Staunton at Leigh Park, from which a fine drawing was prepared by Fitch and published in 1876 in *The Gardeners' Chronicle*, and this drawing is repeated in this week's issue, together with drawings of the abnormal or male flowers prepared from Sir Trevor Lawrence's plant.

From my knowledge of this Orchid I should say that in the United States, where sunshine is more abundant and intense, the flowering of it would be easy of accomplishment. It likes plenty of moisture, both at the root and overhead, and it soon fills a bed of fibrous peat with a door-mat-like mass of roots. It is in every sense a grand plant for a large tropical stove.

Marliac's Nymphæas.—The best of the hybrid and seedling Nymphæas raised by the French nurseryman, Monsieur Latour-Marliac, are of quite sensational beauty and interest. There is a collection of them at Kew, comprising all the best of those so far distributed by the raiser, and they have won universal admiration even from cultivators well acquainted with the older Nymphæas. The new sorts are just the plants for small aquaria, or even for cultivation in casks, as they do not grow rampantly as do those of N. alba, N. tuberosa and others of that ilk, but from a usually solitary crown spring a loose rosette of leaves and set in the midst of them, jewel-like, one, two, three, or even six flowers of varying size and shade, according to age, but all beautiful, richly so, in color as in form. They are expensive, it is true, as Nymphæa prices go, but they are worth all they cost.

Ficus radicans variegata.—This is a pretty little creeper which has been introduced by Mr. W. Bull, of Kings Road, Chelsea, who exhibited plants of it at the Temple Show last May, and again at the last meeting of the Royal Horticultural Society, by whom it was awarded a first-class certificate. It grows as freely and is as clean-looking as the type, while in the cream-white variegation of the leaves, which are oftener more white than green, we have a character that is likely to make the plant exceptionally valuable for clothing walls, pillars, rockeries, etc., in warm houses. According to the most recent monograph of the genus Ficus, F. radicans is a native of India and Malaya and its correct name is F. rostrata.

London. *W. Watson.*

New or Little-known Plants.

Hydrangea paniculata.

UNDER the general name of Hydrangea paniculata there are four distinct plants in our gardens:

(1) A plant known as Hydrangea paniculata grandiflora, with enormous panicles of sterile flowers which open late in August or early in September, and now one of the most commonly cultivated shrubs in the northern and middle states.

(2) A plant which appears to be the wild form of the last with much smaller panicles appearing at the same time, only a few sterile flowers being scattered among the fertile flowers.

(3) A plant intermediate between these two and flowering at the same time, the panicle being nearly as large as that of No. 1, and more showy than that of No. 2 by the presence of a larger number of larger sterile flowers. This as a garden plant is, perhaps, the most desirable of the whole group.

(4) A plant similar to No. 2, from which it differs only in its time of flowering, which is during the first half of July, or about six weeks earlier. A flowering branch of this form appears in the illustration below.

Fig. 47.—Hydrangea paniculata.—See page 362.

It is from a plant raised in the Arnold Arboretum from seeds gathered in 1892 by Professor Sargent in the forests of central Yezo, where Hydrangea paniculata is exceedingly common, as it is further south in all mountainous regions of Japan, and where it becomes a tree twenty-five or thirty feet in height, with a short well-formed trunk a few inches in diameter and stout pendulous branches.

Whether two species can be distinguished in this group, or whether we have only an early and a late flowering race of one species, we have not yet sufficient information on which to base an opinion.

Cultural Department.

Colchicums.

COLCHICUMS have a curious habit of pushing rapidly up from the bare earth and expanding their glowing flowers without a hint of foliage. However often seen these flowers are a surprise each season, as they give no token of their coming. While they are interesting plants in the garden, filled though it may be at this time with the tall and brilliant flowers of the season, their best effect is had from clumps planted in the meadows or on the borders of grass lands. For the wild garden they are invaluable and very effective. They maintain themselves and increase fairly in rather light, moist soil. As the bulbs are dormant only in June, July and August they should be moved at that time. The color effect is their principal value in such places, and C. speciosum, the bright reddish purple species from Asia Minor, is best for such plantings, especially as it is plentiful. For the more contracted garden one may indulge in some of the other species whose beauties bear closer examination. One of the handsomest is C. Sibthorpii, a large-flowered form which has glowing reddish purple flowers with some trace of white on the inside of petals, checkered with red. This is a free-flowering species, and, perhaps, the most attractive of the family.

Another species will soon appear, Colchicum Parkinsoni, a small-flowered Grecian form with purple bars and checkerings in a white ground. This species has not done well in my borders.

Much later than these and flowering late in October usually, is the white form of Colchicum autumnale. A double form of this species which has flowered regularly here for some years has a distinct flower with many narrow strap-like petals. It generally has a rather hard time of it, owing to the usual inclemency of the weather, but might appeal less to one's sympathies if grown under a mat of foliage or in some thin grass. There are about two dozen species of Colchicum, some of which flower in the spring-time.

Colchicum bulbs contain a virulent poison, but have been a favorite prescription for rheumatism for untold generations. I do not know whether they are a remedy or a tradition.

Elizabeth, N. J. *J. N. Gerard.*

Notes on Gladioli.

THE flowering season of Gladioli is nearly past for this year, with the exception of young seedlings and bulbs planted late for the production of late blooms. The season has been, in this part of the country at least, much better than in 1896, both as to the quality of the flowers and the general vigor of the plants.

It is sometimes said that the Gladiolus has reached as high a degree of excellence as can be attained, but those who by raising seedlings and in other ways keep themselves informed will not agree that such is the case. There is a constant increase in the length of the spikes and the size of the blossoms, and we now look upon the varieties of even five years ago as inferior and hardly worth cultivating.

Speaking for myself, I notice year by year an improvement in the substance of the flowers, so that often the fifteenth and sometimes the twentieth flower expands while the first is still in good condition. That the colors improve I am not prepared to say; we have not yet a single good yellow hybrid of any shade, from straw-color to orange, and until we have good ones of every shade there is still work for the admirers of this noble flower. No doubt some will dispute the statement I have just made, but to my mind no yellow flower which is streaked with purple, as they all are, can be called good. There is no Gladiolus yet of the very dark shade found in Africaine and Victory which will withstand the sun as well as the lighter sorts; here is another thing to try for. The blue Gladiolus is yet to be raised. Monsieur Lemoine has given us several beautiful and striking varieties which he modestly calls bluish, not blue. These are very fine under some conditions, but they are all Lemoinei varieties of the sparsely flowering section and a dash of rain reduces the flowers to a miserable state.

Of the different classes of Gladiolus I value the Gandavensis most highly. This strain has finer spikes and more varied colors than any other, as might be expected from the much longer time it has been in cultivation. The Lemoinei race, descended from G. purpureo-auratus crossed with Gandavensis varieties, seems to divide itself into two sections, much unlike each other, one having tall arching stems with few flowers, and those of the hooded shape peculiar to G. purpureo-auratus, and with usually very vivid blotches on the lower petals; the other with flowers as open as the Gandavensis sorts, and in many cases not to be distinguished as of the Lemoinei strain, except by the slenderness or the curvature of the stalk, yet this section has a few kinds with straight, erect spikes of flowers almost equal to any Gandavensis, yet plainly showing their hybrid origin. The Nancianus class, raised between G. Saundersi and the Lemoinei varieties, is remarkable for the size and striking appearance of its flowers, but there is not enough variety in their hues and too few are open at once. As for the Childsi class (I call it so with reluctance), which has been raised from G. Saundersi and the Gandavensis class, I am compelled to say of it, as I have said before, it must be much improved before it will be worthy of cultivation. There are, it is true, a few very good kinds which were worth naming. I have three such, but the bulk of them are in no respect better than eighty per cent. of the seedlings which we raise by the thousand. There must be a great self-denial on the part of those who raise seedlings of this strain, or it will fall into the obscurity which has swallowed up that California strain of which we had such glowing accounts a few years ago. When I expressed a similar judgment as to the Childsi class last year I received some letters of remonstrance, but I must speak of them as I find them, fully convinced that they may be made a distinct and valuable class, but only by using great caution in dignifying the seedlings with names.

I mark such of my seedlings as seem worthy of farther trial by tying a label to the stalk pretty tightly, and I find that these stalks give me more seed than others. Has any one noticed the same occurrence? I have before mentioned that Gladiolus Saundersi is hardy here. The clump which has endured several years is now again in full flower, a dense tuft of foliage with nine flower-spikes three feet long pushing boldly up from the turf, and giving me more pleasure than the thousands which I labor over so much.

Canton, Mass. *W. E. Endicott.*

A New Double Hollyhock.

A GENERATION ago the single Hollyhock, Althæa rosea, was one of the commonest cultivated flowers, and its rose-colored blossoms were the most conspicuous decoration of many country dooryards. But the large plain flower, bold and stately though it was, failed after a time to satisfy the public taste. The ravages of the Hollyhock rust in Great Britain have prevented its being extensively grown there since the middle of this century. However, the dissemination of the more attractive double varieties in this country and the hope in England that the fungus pest has done its worst and can now be successfully combated, has reawakened interest in this old-time favorite.

The Hollyhock lends itself readily to the production of new varieties, and a large number are offered. There are now growing on the grounds of the Vermont Experiment Station, and were exhibited at the Vermont State Fair this fall, specimens of a new double variety originated by Mr. A. E. Wohlert, gardener to the Pennsylvania Railroad at Altoona, Pennsylvania. Several years ago Mr. Wohlert was in need of a flower for planting among shrubs which should make a good effect at a distance for a long period and yet look well near at hand. The common Hollyhocks were tried, and fulfilled the first requirement, but the blossom was too precise and geometrical when closely examined. Mr. Wohlert commenced breeding for a better style of flower by crossing selected specimens of a common single variety with Chater's Best and obtained a fringed, well-formed, semi-double flower. A seed sport from this was crossed with a large semi-double variety found growing in a farmer's dooryard, and produced a fine double strain, which Mr. Wohlert has introduced this year as the Alleghany Hollyhock.

The inner petals of the common double Hollyhocks make a compact mass of plain floral leaves all of the same length, but shorter than the true petals, which form only one whorl, as in the single varieties. On account of this arrangement and peculiar difference in the lengths of the petals there is produced an impression of disproportion between the heavy-appearing centre and the delicate wall. In this double Hollyhock the suggestion of formality and disproportion is absent, and the effect is more unconventional. For this reason it is more desirable for planting among shrubs. The reverted stamens are curled and fringed and not closely laid together. In the type they are of the same length as the petals, forming a large, full, well-rounded flower, light and graceful. The colors range through all gradations from pink to black-red.

The Alleghany is variable, and has already developed within

itself several different shapes. This marked variability is, of course, due in great measure to its newness, and persistent selection will do much to fix the variety. The most perfect flowers bear very few seeds, although those less perfectly doubled produce an abundance, and the strain would, therefore, be liable to deteriorate rapidly in the hands of inexperienced growers. This new form further shows a tendency each year to produce a few (ten per cent. or less) of single flowers and as many more of otherwise worthless ones. On account of its novel shape the Alleghany is a distinct and valuable addition to our already long list of Hollyhocks, while in delicacy of shades and tints it is surpassed by none.

University of Vermont. *V. A. Clark.*

Notes from Wellesley.

AMONG autumn flowers Rudbeckia fulgida shows up well in the borders. It is tall and stiff in habit and floriferous. The flowers, though smaller than those of our native R. hirta, are distinctly rayed, while the black centre makes a striking and pleasing contrast. It is a useful plant for cut flowers.

Salvia splendens compacta can only be kept true when raised from cuttings. The plants are now a mass of brilliant scarlet. Growing not more than one foot high, these Salvias make a better bedding plant than scarlet Geraniums.

An attractive bed in the flower garden on the estate of H. H. Hunnewell, Esq., is made up of trailing Roses of the Wichuraiana type, with the pretty Nierembergia frutescens intermixed. The Roses are beautiful in spring, and Nierembergia makes a display in summer.

A bed of Giant Grasses, with Arundo Donax fifteen feet high, tapered down with striped and barred Eulalias, some Panicums, and here and there a Cyperus antiquorum, is one of the most attractive features here just now.

Cyperus alternifolius and its variegated form make excellent pot-plants for table decorations. They sow themselves freely in our greenhouses and come up as an edging to the walks. They are equally effective as bedding plants in subtropical gardens.

Another common yet interesting plant is the Wandering Jew Saxifrage, S. sarmentosa. It is not hardy. It makes an excellent basket-plant, the stolons, with plantlets, drooping sometimes more than two feet. Under the greenhouse benches it takes care of itself, and when in bloom is quite effective with long spikes of white flowers.

The vigor of the popular autumn-flowering climber, Clematis paniculata, is now well known; it here grows twenty-five feet and covers a large Maltese cross with a mass of bloom. Seeds gathered when ripe, sown at once in boxes, left until frozen, and then covered with litter and kept so all winter, will germinate in spring.

Wellesley, Mass. *T. D. Hatfield.*

Rudbeckia Golden Glow.

WE have been much pleased with this novelty this season (see GARDEN AND FOREST, vol. x., p. 294), and consider it altogether the finest herbaceous plant for border use sent out in recent years. It is quite distinct from Helianthus multiflorus in that it flowers fully a month earlier and is past when the latter begins. The long-stemmed flowers are useful for cutting, and are smooth-stemmed and not so unpleasant to handle as those of the Helianthus. It is also perfectly hardy, a strong point in its favor, as the Helianthus multiflorus cannot be relied upon every year and often winter-kills, so that it needs protection to make sure of it. The variety Golden Glow appears to be a form of Rudbeckia laciniata, a rather weedy plant and suitable only for semi-wild situations. This double form is free from the objectionable weediness and its only fault is in the weakness of its stems, which it is necessary to stake when the flower-buds begin to form. Otherwise it is an ideal plant for the border.

South Lancaster, Mass. *E. O. Orpet.*

Lilium Henryi.—It is a surprise as well as a pleasure to note the praise that has been bestowed upon Lilium Henryi in recent garden literature. After having seen it in blossom for two years in Mr. Horsford's gardens at Charlotte, Vermont, I am willing to believe all the good reports of it. The plant seems to be remarkably hardy, thrifty, vigorous and free from disease. The individual flowers are beautiful, but the general effect of several plants growing together is truly magnificent. There is a free and easy unconventionality about such a group which reminds one of L. speciosum rubrum at its best. L. Henryi is more pleasing, and it is, perhaps, not too much to say that for the hardy border, thrift and beauty considered, this species surpasses all others known to cultivation.

University of Vermont. *F. A. Waugh.*

Correspondence.

The Botanic Garden of the Michigan Agricultural College.

To the Editor of GARDEN AND FOREST:

Sir,—Michigan Agricultural College has a campus of about eighty acres, besides the orchards, fields, vegetable gardens and forests, and three acres are devoted to growing hardy plants in what is called a botanic garden. Here 1,850 species are now under cultivation. The botanic garden is well kept, and that it is interesting is attested by the many visitors of all classes during the growing season. Granges, farmers' clubs, Sunday schools, lodges, entire schools with their teachers, professors of colleges, and students taking a vacation trip on bicycles, all visit this botanic garden. It is none the less interesting because it differs so much from the parks usually found in cities, and contains no "bedding plants." The interest shown by visitors encourages us to believe that the effort to plant and maintain a small botanic garden is worth a good deal more than it costs.

Everything considered, from early spring into late autumn, the Mint family is one of the most satisfactory to cultivate and one of the most attractive to visitors. Nearly all the species of Mints in our garden, some sixty-five in number, are placed in one group. Large dense masses of plants, with tops of an even height, are pleasing to most persons. The shape of leaf and the color sometimes attract attention, but the general shape of the plant strikes people as important. Of this family we have Linden-leaved Sage, Salvia tiliæfolia, an annual from Europe. The mass is dense and even, and three feet or more high. It always wins notice, notwithstanding the flowers are small and inconspicuous. Another low annual known as American Pennyroyal, Hedeoma pulegioides, is interesting when well grown. It is easily kept from year to year on sandy land, not too dry, and a patch three to four feet in diameter is satisfying to the eye. The odor is remarkable and usually pleasing. A dense and thrifty patch of Thyme, five feet across at this season, attracts insects in large numbers by its spikes of small light pink flowers and its delightful fragrance. In 1893, while attending the World's Fair, I made the acquaintance of an attractive plant on the prairies and took specimens of it to plant in the garden here. It is thrifty from spring to October, and it deserves more general cultivation than it has yet received. This plant is False Dragon-head, Physostegia Virginiana, one of the Mints. I planted it in sandy land, not far down to water. The leaves are thick, very dark green, lanceolate, strongly denticulate; the plants five to six feet high. To be appreciated there should be a good clump of it, and not only a few stems. In central Michigan it flowers late in August and early in September. The dense spikes are three to eight inches long; the flowers all bend to one side, are of a light rosy hue, an inch long and somewhat trumpet-shaped. The spikes are liable to fall over unless grown in a still place or tied to stakes.

In rich, moist black earth at the foot of a low bank under the spreading limbs of evergreen trees, we have a spot well adapted to Ferns and some other choice plants. Near by a group of Ginseng develops to perfection, and just now the umbels of shiny vermilion berries are at their best, and the leaves are beginning to show a tint of the same color. White Baneberry is displaying fruit to good advantage, the white berries on thick red pedicels, each berry turning up a small black eye. Here is also a thrifty patch of Yellow Puccoon, Hydrastis Canadensis, four by eight feet, from which large crimson berries have lately been removed. Physicians are always glad to look at it and frequently ask for seeds or roots, the latter of which bud at random in sufficient profusion to multiply the species. The healthy plants are attractive in the shape and color of the leaves and in the color of the berries. Near by are two masses of Hepatica, three to four feet across, one of each of our two species. They are still in perfect health, with all the leaves fresh and sound and give promise of a splendid crop of their flowers in early spring. Considerable pains have been taken by our students in contributing individual plants distinguished for flowers of different sizes and colors from white to pink and dark blue.

Three or four years ago I introduced from the south some plants of the Water-lily family, known as Cabomba Caroliniana. These were placed in two ponds, but until this year they escaped notice. One mass is now twelve feet in diameter.

The flowers are small and white, but the stems with their bright green dissected leaves are two inches in diameter and have a striking appearance. Nothing in the garden is more admired by visitors of all classes than two large masses of the pink Water-lily from Cape Cod.

For late summer and autumn I commend Polygonum Virginianum, familiar in moist thickets. The ovate or lanceolate leaves when grown in the open are dark green, with a velvety appearance. The plants are about four feet high, including the slender spikes, which are from twelve to twenty inches long. Our compound plant is eight feet in diameter. In the woods the leaves are lighter and the calyx is green, but when exposed to the sun the calyx is crimson. The long, slender and naked spikes are rather rigid, and with the persistent crimson calyx, all above the leaves, make a striking picture. The botanist is interested in the plant for its plan of distributing its seeds. Each flower-stalk has a joint at the base, where it separates very easily when mature. It dries with a tension, so that if touched the fruit goes off several feet with a snap and a bound. The wind or some passing animal shakes the elastic stems, jostling them against each other, and thereby sows the seeds broadcast. The two slender, stout, persistent styles are recurved at the apex, and catch on convenient objects like a burr. Should there be a freshet the seeds, enclosed by ovary and calyx, will float with the sticks and leaves. Besides its beauty of form and color, its other peculiarities make it an attractive plant, and yet no one has thought enough of this hardy perennial to give it a common name. It is nearly allied to Prince's-feather, and is more interesting than that plant. Growing next to it, and belonging to the same genus, is P. arifolium, Halberd-leaved Tear-thumb. This is a neat annual, not pleasant to handle, but interesting as it is seen climbing over bushes and holding on by its recurved hooks. The heads of small white flowers are not gaudy, but they are well placed on long stems above the dark green leaves.

In damp summers the native Wild Balsam-apple, Echinocystis lobata, plays a conspicuous part along the river-bank among the bushes. It rambles about, sometimes covering almost everything for a space of forty feet and stands ten to twenty feet above the ground. In such places it is peculiarly attractive at this season. I have recently introduced and planted near this species the One-seeded Bur Cucumber, Sicyos angulatus. These plants ramble over and under each other in a surprising fashion, sometimes one having the advantage and sometimes the other. Last year the Balsam-apple was the more prominent; this year I think the Bur Cucumber is ahead.

The deep blue flowers of Wild Comfrey, Cynoglossum Virginicum, are pleasing, and resemble a large Forget-me-not, with flower-axis somewhat drawn out.

In a low secluded spot exposed to the sun Castor-oil plants grow ten to fourteen feet high, with stems nearly as large as one's wrist. While the flowers are interesting, these are not as attractive to the general visitor as the great tropical-looking leaves.

South of an exposed bank I had twenty to thirty loads of sand drawn in from the flats of the river and have had it fertilized a little. Here a mixture of plants is grown which thrive in such soil, including Lupines, three species of Ceanothus, hardy Cacti, Bearberry, Sand Cherry and many others. Among the favorites are Solidago rigida and Helianthus occidentalis, which several times failed under seemingly better treatment. Tanacetum Huronense, from the sandy shores of the Great Lakes, makes itself at home and strives for more space than we are willing to allow. The bunches of large yellow heads of this Tansy above the healthy feathery leaves are worth inspection. And here Desmodium rotundifolium rambles in great perfection, the prostrate vine overhanging some bowlders. Its round leaflets always attract attention, while the light pink flowers and peculiar fruit help to give variety.

Lobelias are grown in an artificial depression where they can be flooded when necessary. The bright blues and the cardinal flowers are well known. For a few weeks in September the wide row of several species of Hibiscus is at its best.

Agricultural College, Mich. *W. J. Beal.*

Notes from Rochester, New York.

To the Editor of Garden and Forest:

Sir,—There is always a scarcity of flowering shrubs at this time of year, and, indeed, the flowers of perennial herbaceous plants are not too plentiful in the border at this season, and any additions are welcome.

It was a surprise to see in Highland Park, at Rochester, New York, some very fine specimens of Vitex Agnus-castus in full bloom. Mr. Dunbar stated that the plants were not hardy and had been killed down to the ground each year. The resulting growth gave them the appearance of being herbaceous instead of shrubby plants. The long spikes of bright lavender-blue flowers were extremely ornamental and distinct. V. Agnus-castus and V. incisa are the species grown there, the latter being the inferior in point of color, but both are desirable where a collection is grown. This plant will probably prove hardy enough in a moderately dry soil in all of the eastern states, as the winters at Rochester are more severe than in Massachusetts, and much difficulty is found there with evergreens that ordinarily are quite reliable here. It was surprising to see many plants of doubtful hardiness thriving there, and I was shown a vigorous young plant of Sequoia gigantea that had survived the past winter without protection and which had grown nearly two feet this summer.

The English Broom, Genista scoparia, has also been successfully grown there for a number of years, long enough to form a handsome bush, and at this time is covered with seed-pods after a fine display of bloom. It would be interesting to see if the variety Andreanus will prove hardy there also. This is only a form of G. scoparia, but it comes from the hills of Normandy, where it appeared as a sport among the common Broom, and, unfortunately, has not proved as hardy as the type, if the latter is taken from a British-grown plant. It is well known that geographical forms of the same species have varying degrees of hardiness, and while we hope Mr. Dunbar may succeed in acclimating the variety Andreanus, this is doubtful. A plant of this species tried here, and which was well established on its own roots, did not survive the first winter.

There is much of horticultural interest in Rochester in its many large and famous nurseries, and the fine system of parks that has recently been formed is already a credit to the city. This system includes the Genesee River Gorge, a feature unique in its way and of inestimable value for its magnificent scenery, and the gorge has been made secure to the public for all time; the South Park, with its broad pastoral views; and the more highly developed Highland Park, where it has been the object to have every species of deciduous shrub that will grow planted according to its botanical affinity. This has been accomplished in a most happy manner on sloping hillsides that prevent monotony and give easy access by grassy walks.

So. Lancaster, Mass. *E. O. Orpet.*

Peaches in the Ozark Mountains.

To the Editor of Garden and Forest:

Sir,—The big packing tent in an Ozark orchard of Elberta peaches is a lively and interesting place. Through the centre of it runs a long table, at each side of which the packers, who are all women, sit on boxes set on end. Men in a straggling line pass out, going with empty cloth-lined baskets, and return them filled with richly-colored fruit. There is a general foreman, who is responsible for the picking, packing, shipping and marketing, an under foreman, known locally as a "straw boss," to every six pickers, and a forewoman for the women packers, of whom there are as many as forty in the busy season. So-called "lackeys," men and boys, keep the packers supplied with fruit, baskets or boxes and wrapping paper, and remove the filled packages from the table. In the tent an efficient forewoman is in authority, and moves about the table with her eyes on every worker, while her constant admonitions and directions suggest new ideas to the consumer, who, after much experience in emptying such packages, sees them for the first time being filled. The forewoman decides what sort of packages shall be used for the fruit which is then being picked. The finest grade is packed in "California" boxes, the next in six-basket crates, and the lower grades in four-basket crates, and "thirds," the familiar peach boxes that hold one-third of a bushel. With her cry of "All thirds," "Californias," etc., as the case may be, the empty packages are set within reach, the women at once begin to handle the fruit, and the watchful forewoman is fluent in a series of remarks, as, "handle them fast, girls," "just as fast as you can," "remember! the long way of the peach, the long way of the box, and the blush side up every time," etc.; but "blush up every time" is most frequently repeated. And the workers, too, have their say. The eight and one-half inch square white papers rustle and crumple under the swiftly moving hands, and the cries of "peaches out of the way" and "more peaches," or "peaches off" and "peaches on," come in rapid succession. Handsome sprays of peach-leaves are laid on the top of all the packages by boys. Men then fasten

on the lids, others stamp the boxes and crates containing the highest grade, Fancy Elbertas, or Fancy Freestones, and those holding the next grade, Choice Elbertas, or Choice Freestones. The crates are carefully loaded into the high-boxed peach wagons and driven slowly to the shipping shed at the railroad siding. During the rush in the Elberta season two refrigerator cars were dropped at the railroad station of the Olden fruit farm every day. As soon as enough crates to fill a car are piled on the platform they are deftly and rapidly packed in the car, each box or crate being isolated by using inch-square cleats horizontally and one and a half inch cleats vertically between the packages, so that the cold air circulates freely around every package. Four tons of ice are used in icing a combination refrigerator ventilator-car. A fruit express train picked up the cars every evening from near the Arkansas line to Cedar Gap, making passenger time from that point to Kansas City.

Brighton, Ill. *Fanny Copley Seavey.*

The Dikeman Cherry.

To the Editor of GARDEN AND FOREST:

Sir,—Referring to your note about the Dikeman Cherry, on page 338, and which I saw as one of the judges at the New York State Fair, this new variety seems to meet all the requirements of a good late cherry that will bear shipping, and does not decay. The cherries at the State Fair had been picked on Friday, August 20th, in Michigan, and shipped nearly 500 miles by express to Geneva, New York, then sent to Syracuse and put on exhibition. They were in sound and fresh condition, and I may add that on Saturday, August 28th, I brought some of the fruit home with me that had been on the plates during the whole week, and it is now, August 30th, on my table perfectly sound after all this exposure.

The Dikeman is a beautiful solid, meaty, black cherry of the best quality. Taking these characteristics with its lateness and shipping and keeping qualities, it is the most promising cherry of which I know, and Mr. Willard is to be congratulated on securing so valuable a prize. Mr. Willard found the cherry growing in the light sandy soil of Oceana County, Michigan, a short distance from the lake, the tree presumably a seedling. A few buds were secured, and these were top-budded on some bearing trees in Mr. Willard's orchard at Geneva, and from these a few trees have been grown.

I might also mention the President Wilder currant, of which a remarkable exhibition was made at this fair by Mr. Willard. The fruit was large, clusters long and filled to the end with beautiful berries which maintained their size along the entire cluster. The fruit is of first quality and as large as that of the Cherry currant, more juicy and with less seeds and acid than any other variety of which I know. The leaves are thick and large, the wood strong and loaded with an immense amount of fruit. All these qualities must make it a popular and profitable market currant.

Lockport, N. Y. *J. S. Woodward.*

Crested Begonias.

To the Editor of GARDEN AND FOREST:

Sir,—An error in punctuation in my note on Crested Begonias, September 8th, page 353, unfortunately confused the description. It should read: "But sometimes attached to all the petals, and sometimes only to either the inner or outer pair, a growth springs from the lower section, though not from base of petals."

I might add that this growth is of the same texture and color as the petals, but is not in the nature of a doubling of parts. It seems to be simply a sportive growth in an entirely new direction.

Elizabeth, N. J. *J. N. Gerard.*

The Cheney Plum.

To the Editor of GARDEN AND FOREST:

Sir,—In writing to GARDEN AND FOREST some weeks ago regarding the ornamental value of Plum-trees I made special mention of the variety propagated under the name of Cheney. I have just now received some very fine specimens of the fruit of this variety from Mr. John Craig, of the Central Experimental Farms, Ottawa, Ontario. Though not so notably prolific as some American varieties, Cheney bears fruit of a very superior quality and appearance. Those sent by Mr. Craig are somewhat unequally elliptical, with a longitudinal diameter of 3.5 cm., and a transverse diameter of 3.1 cm., with a visible suture; bright dark red, with a very thin white bloom, almost without dots; skin thick and firm; flesh firm yellow, of fine quality; stone medium large, much flattened, cling. As stated in my former communication, the tree is a fine grower, and especially pretty in blossom. Professor Bailey rates the fruit as good to very good, and says that this is one of the best varieties. It seems to me to be a very satisfactory example of the Nigra group of native plums—a group very poorly represented in cultivated varieties as compared with the western type of Prunus Americana. It is, therefore, interesting as a type besides being useful as an ornamental and as a fruit tree.

University of Vermont. *F. A. Waugh.*

Recent Publications.

Our Native Birds of Song and Beauty. By Henry Nehrling. Vol. II. George Brumder, Milwaukee, 1896.

The first volume of this work was noticed in our issue of April 18th, 1894, vol. vii., p. 159. The present and concluding volume was completed early this year. It may be fairly said that the aim of the undertaking, the filling of a gap between the very expensive and the merely technical books on our ornithology and the combination of popular biographies of our song birds with the presentation of recognizable portraits of them, has been successfully attained with a result that must be useful to a large class of readers. The author has added to his own observations made during residence and travel in various parts of the country copious quotations from the best writers on the subject, and this feature adds much to the value of the book by putting the general reader in possession of a great deal of interesting matter he would not be likely to meet with otherwise. All technicalities have been carefully avoided, the specific descriptions being appended in smaller type. Interspersed throughout is much information about plants, wild and cultivated, with both of which the author is well acquainted, and the descriptions of scenery in various parts of the country show him to be a true lover of Nature.

The plates, printed in colors from drawings by Ridgway, Goering and Muetzel, vary considerably in style and quality, those of the German artists being overcrowded with figures and overloaded with heavy backgrounds. Landscapes, as a rule, do not add to the beauty of ornithological plates, and the simpler the accessories the better. The figures of the birds are generally well drawn and lifelike, and would, in our judgment, look better without such elaborate surroundings. It would have been better, too, to have preserved a more uniform scale in the size of the figures. In the matter of typography the red-lining of the page is not to our taste, but in other respects the work is well printed. The popular interest in ornithology has become so general in this country that a work like the present cannot fail of large usefulness.

Contributions from the United States National Museum, vol. v., No. 3: Studies of Mexican and Central American Plants. By J. N. Rose.

In this very interesting number of the *Contributions* Dr. Rose has given the result of his careful studies not only of the later collections from Mexico and Central America, but of many of the older ones necessarily compared with them. The plan of reporting on separate collections is abandoned in view of the large number of sources from which the plants have been received. The present plan of working up the various collections jointly and reporting upon them by genera or families, with at times revisions and synopses, seems justified by the great body of material at hand, and we think the result before us will be heartily endorsed. Such synopses as those of Heliocarpus and Wimmeria will be found very useful and suggestive, and the work in family Cucurbitaceæ shows the excellent judgment that characterizes all of Dr. Rose's revisions.

The large number of plates is a feature, seventeen of them being given to the thirty-four pages of text. They are as satisfactory as any that have been published in the series.

Notes.

Messrs. Ellwanger & Barry on the 4th of September shipped a collection of 125 varieties of pears from the Mount Hope Nurseries, Rochester, New York, to the Horticultural Exhibition at Hamburg, Germany.

American readers of *The Garden* will be interested in the colored plate of Lathyrus splendens in a recent issue of that journal. This perennial Pea, native of southern California, flowered at Kew for the first time this year, and for three months there was a continuous display of the beautiful rich red-maroon blossoms.

In the fancy-fruit stores, among choice and handsome offerings, are luscious Kelsey plums with honey-like flavor and large nectarines from the Pacific coast; spicy muskmelons from Rocky Ford, Colorado; new-crop lemons from Florida; so-called Valencia oranges, from California, held over in cold storage; Prickly Pears, the fruits of Opuntia Tuna, from the Mediterranean, and the first winter melons, from fields near Naples.

Since the time of the Pharaohs lime has been used in European countries in agriculture, and perhaps more experiments have been made with this substance in connection with plant growth than any other chemical. A condensed summary on the practice of liming has just been published by the Rhode Island Experiment Station, which gives in a brief compass some essential facts that every agriculturist ought to know, and we commend this little treatise of a score of pages to the careful attention of every student of agricultural science.

An instructive circular has just been published by the Division of Forestry, relating to the age of trees and the time of blazing them as determined by annual rings. The difference of the layers of spring wood and summer wood in coniferous trees, as well as the structure of ring-porous woods like the Hickory and Locust, is explained so that the careful student receives all needed directions in making his investigations. The circular covers less than a dozen pages, but it is so carefully illustrated and prepared that no novice can read it carefully without receiving genuine instruction.

Mr. Joseph Meehan recommends Pueraria (Dolichos) Thunbergiana for a trellis on the veranda. The best opportunity is thus afforded to train this vine so that its fragrant rose-colored flowers are not hidden under the luxuriant foliage. The perennial Plumbago Larpentæ is now showing its blue flowers in Germantown, where it is sometimes at its best during October. Mr. Meehan calls attention to the advantage of cutting off the flower-heads of Spiræa Bumalda in July when the first blooming season is past. With this attention this plant is now flowering as profusely as early in the season, though the flower-heads are not as large, and its season may be indefinitely prolonged.

Mr. J. G. Jack will conduct a series of lectures and field meetings at the Arnold Arboretum, beginning September 18th and closing November 6th, for the purpose of supplying popular instruction about trees and shrubs which grow in New England. The intention is to indicate by comparison the easiest means of distinguishing the common native trees and shrubs and to recognize foreign species which have been introduced into gardens. The ornamental and useful properties of these trees and shrubs, their habits of growth and other peculiarities will be considered, and particular attention will be given to their identification and general aspect as they lose their leaves and prepare for winter. The classes will meet on Saturday mornings at ten o'clock and on Wednesday afternoons at three. Applications or inquiries may be addressed to Mr. J. G. Jack, Jamaica Plains, Massachusetts.

Professor Plumb has recently followed the example set by many other American students of Agriculture and visited Rothamsted, the scene of the great series of experiments which have been persistently carried on for more than half a century in order to ascertain some trustworthy data in regard to the exhaustion of plant-food from the soil. Interesting as is this estate, it is very plain that Sir John himself will continue to be the crowning attraction of Rothamsted as long as he lives. He wears his eighty-three years like a man of middle age and tramps his fields as sturdily as if he were no more than thirty-five. Sir Henry Gilbert, his companion for more than fifty years, and who has been helping Sir John carry out his experiments, is an equally well preserved example of English country life, and every civilized man who takes an interest in agriculture will unite with Professor Plumb in wishing to these eminent Englishmen many and fruitful years to their generous work.

Professor J. B. Smith, of the New Jersey Agricultural Experiment Station, has sent out a circular in relation to the San José scale, which briefly advises that all infested bearing Apple, Pear, Plum and Peach trees should be sprayed thoroughly in September with undiluted kerosene in the middle of a clear, sunshiny day. By undiluted kerosene is meant the ordinary burning fluid used in lamps exactly in the condition in which it is purchased, and it should be applied in the finest possible spray, so that every part of the plant should be wet thoroughly, but no more. One application is sufficient, and it may be delayed until the fruit has been removed, although the sooner it is now applied the better it will be. The treating of nursery stock or of very young trees in this way with undiluted kerosene is not now recommended. The details of the experiments upon which this treatment is based will be reserved for the close of the season, but Professor Smith sends out this circular so that something may yet be done before the year closes.

The problem of food supplies for two million persons crowded on a limited area is an interesting one, and the buyer of choice products at high prices need not have philanthropic impulses to wonder occasionally how the majority of the city's population is fed. Of a half dozen characteristic markets for the masses scattered through New York City, one of the best known is "Paddy's Market," held each Saturday from the middle of the afternoon until eleven o'clock at night, on Ninth Avenue from Thirty-eighth to Forty-second Streets. In the evening these four blocks are a scene of surprising animation. On both sides of the wide avenue wagons are drawn up lengthwise along the curb, the horses headed toward the middle of the street, with push-trays, barrels and crates crowded in, and all heaped with offerings. Much space is also occupied on the sidewalk along the fronts of the stores. The stock is arranged with considerable neatness, and in some instances the open wagons are entirely lined with heavy white paper. Often a wagon holds but one kind of fruit or vegetable, though an assortment is sometimes offered. Many flaring torches on the wagons add a weird brightness to the city's electric lights. The rumble of elevated trains overhead and the noise of street cars almost escape notice in the harsh guttural and nasal shouts of venders. A wagon-load of onions may have for its neighbor a wagon-load of peaches, or melons, corn, cabbage, celery, plums, beans, apples, bananas, cucumbers, potatoes, pears, chickens, hams or fish, not taking into account household utensils, shoes and clothing. On a hot night lemons are abundant and sell at five cents a dozen. Among vegetables, string-beans now seem most in demand. Pails are the ordinary and enticing form of measurement and hold from one to four quarts. A small pailful of beans sells for five cents early in the evening, and later on overstocked dealers look for buyers at three cents. Boys mingle among the throngs on the sidewalks and offer heaped pails of vegetables and fruits for a few pennies. Women stand at the street corners with large baskets containing eggs, and in each instance a candle, and make a show of testing the eggs by its light, at the same time keeping an eye on mischievous lads in the crowd who watch the chance to shy a pebble into the fragile collection. English is heard almost entirely, though there are some Polish and Italian sellers. The orderly crowds of buyers are mostly Irish, Italians and negroes. The purchases are carried away in armloads of brown paper parcels, in paper and muslin sacks, and in capacious baskets with dome-like lids, and occasionally aprons hold an overflow, while, as the evening progresses, half-bushel baskets of peaches prove an irresistible bargain to thrifty housewives who struggle along with them. A particularly fragrant stand has a collection of fresh herbs from a suburban garden and the woods about Fort Lee. Large Mullein leaves, plants of Dandelion and stalks of Boneset, Horehound and Tansy are confidently recommended as remedies and sold in generous bunches at five cents each; Mint is said to drive away ants, and Pennyroyal is sold to hang in open windows and keep away the mosquito plague of this wet summer. Policemen seem even unusually scarce here, and from the two hurriedly questioned it was learned that while this market has been carried on during considerably more than a quarter of a century, it has only been organized within the past three or four years. The licensed dealers pay a small tax for the space occupied and share in the cost of promptly clearing away the waste. Only rare and choice fruits and vegetables are missing here. The quality is fair for this class of market, with almost no really unwholesome stock, and the low prices put substantial meals within the reach of persons of very small means.